

A Presentation to the Montana Public Service Commission

Transmission Forum

August 30, 2012

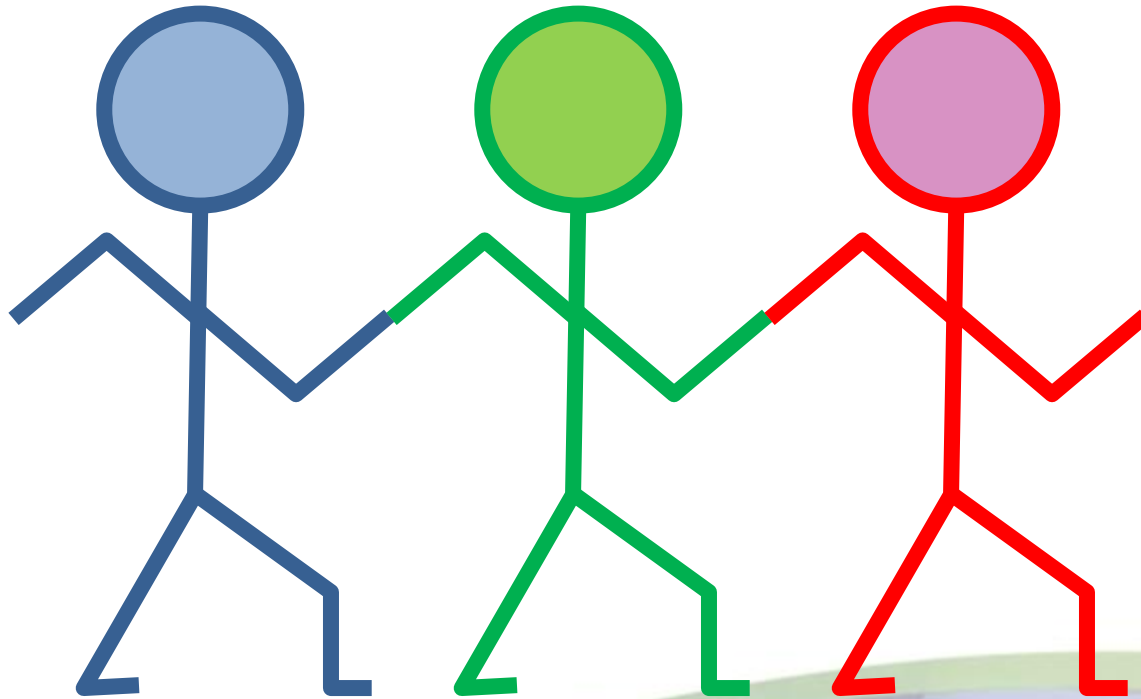
Ted Williams, PE
Head of Transmission



Customers are Customers

Some investments directly benefit **blue** and not **green**.

Some investments directly benefit **red** and not **blue**.



**...BUT ALL BENEFIT FROM
ROBUST INFRASTRUCTURE**

Thought Provoking Examples

Last major transmission investment in Montana

- ❖ Three Rivers to Jackrabbit 161 kV line
- ❖ Built to serve growing Gallatin Valley load
- ❖ \$25 million investment
- ❖ Never increased bulk system throughput
- ❖ Paid for in every wheeling transaction



Gaelectric about to do transmission deal with NWE

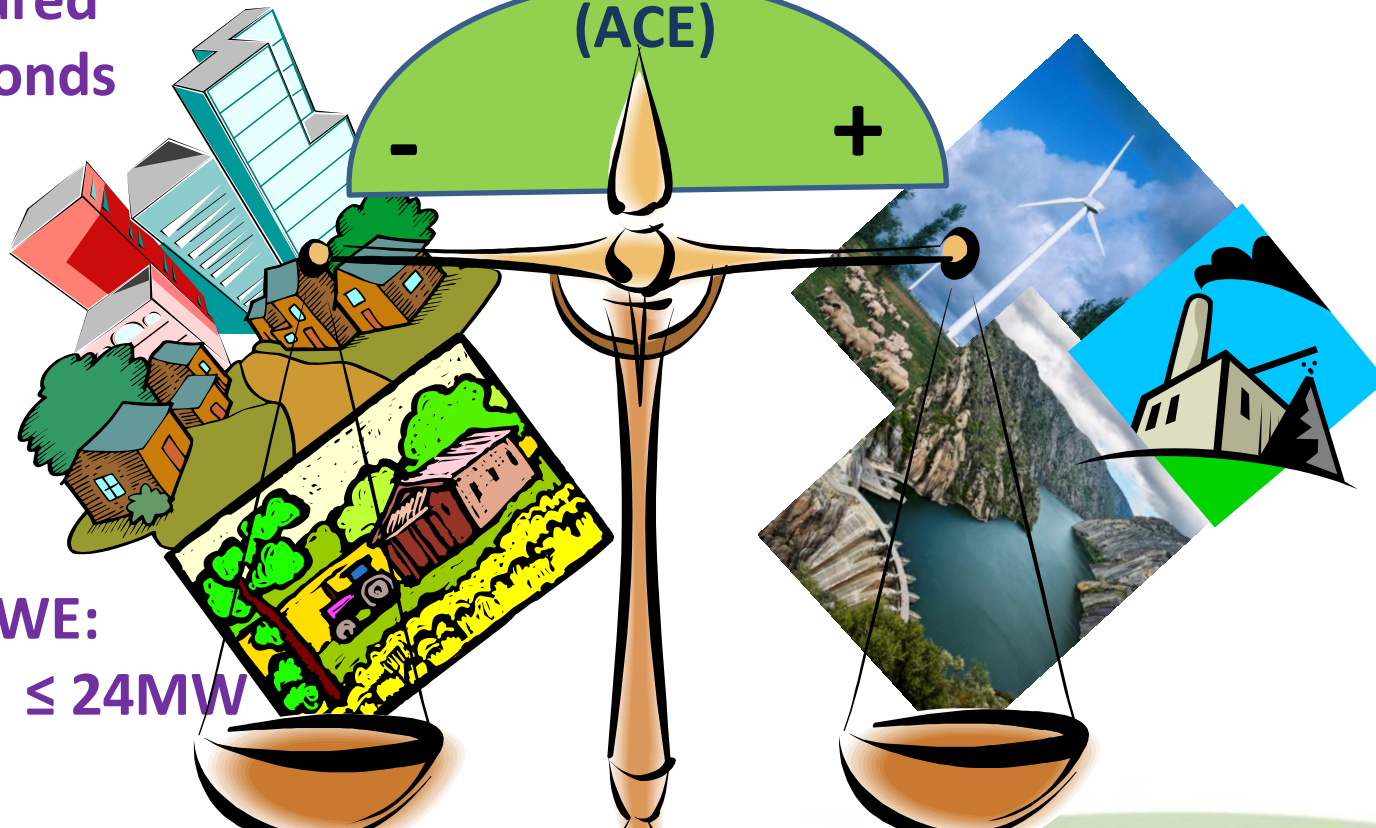
- ❖ Over \$5 million annual revenue to NWE
- ❖ Will be credited to native load customers
- ❖ No transmission investments required

So, who is subsidizing whom?

What is a Balancing Area?

Area Control Error
(ACE)

ACE measured
every 4 seconds



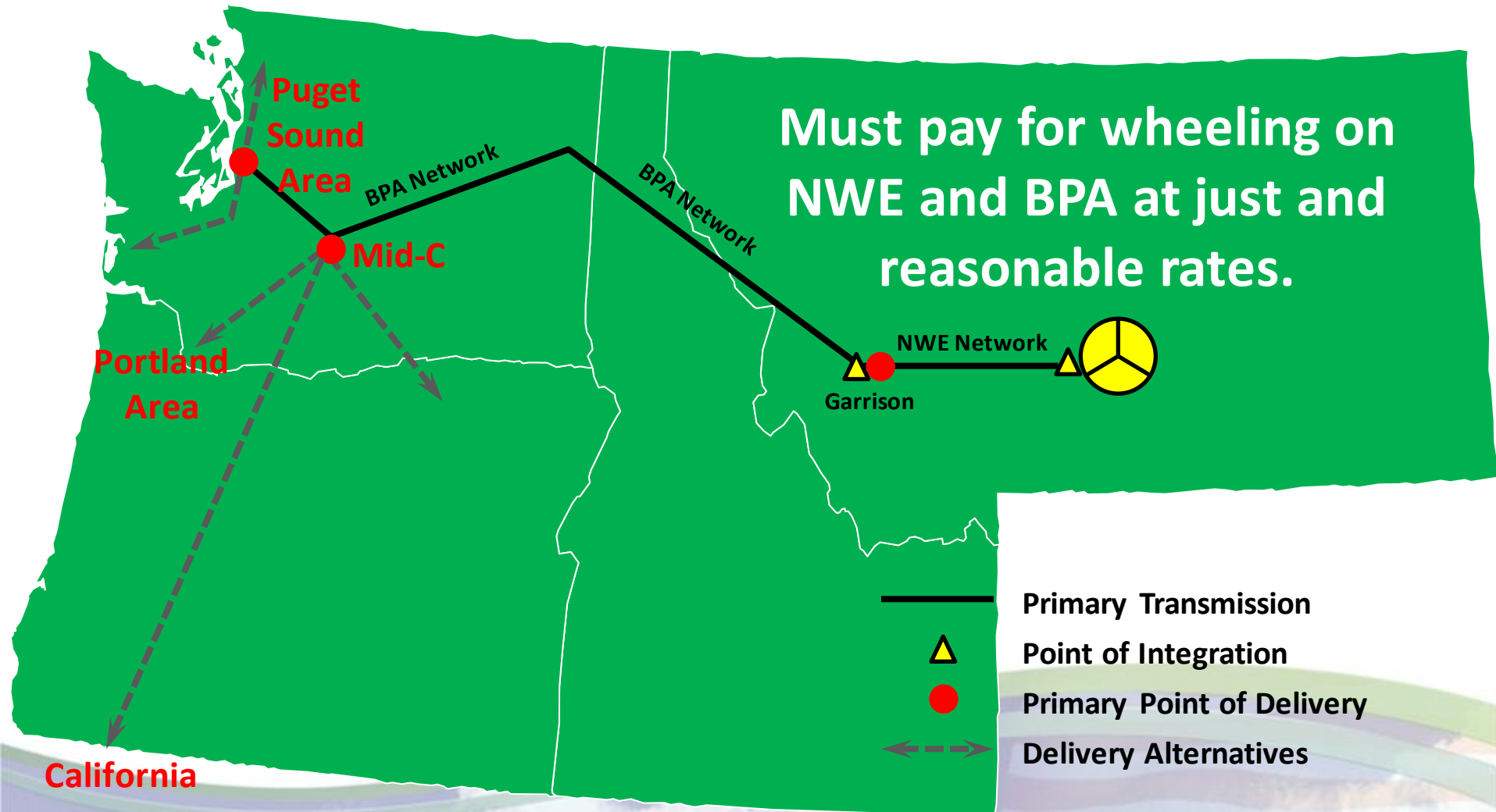
For NWE:

$$|ACE_{10 \text{ min}}| \leq 24 \text{ MW}$$

MUST BE COMPLIANT 90% OF THE 10 MIN PERIODS IN THE MONTH !

**Testing underway on “reliability-based” control.
Holds promise for a more efficient method.**

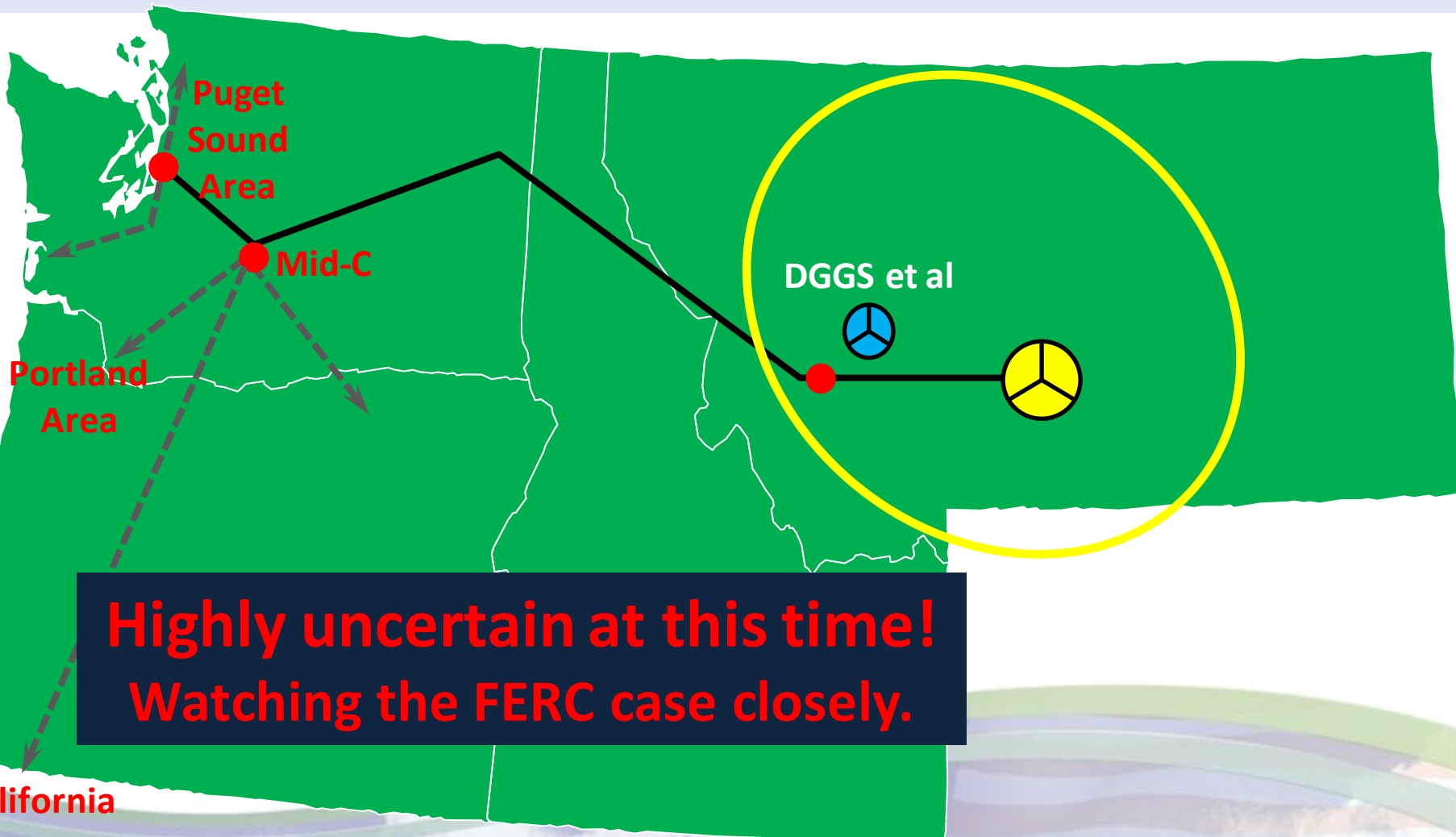
Potential Customers



Four options available to Gaelectric for ancillary services

Generate in the NWE BA

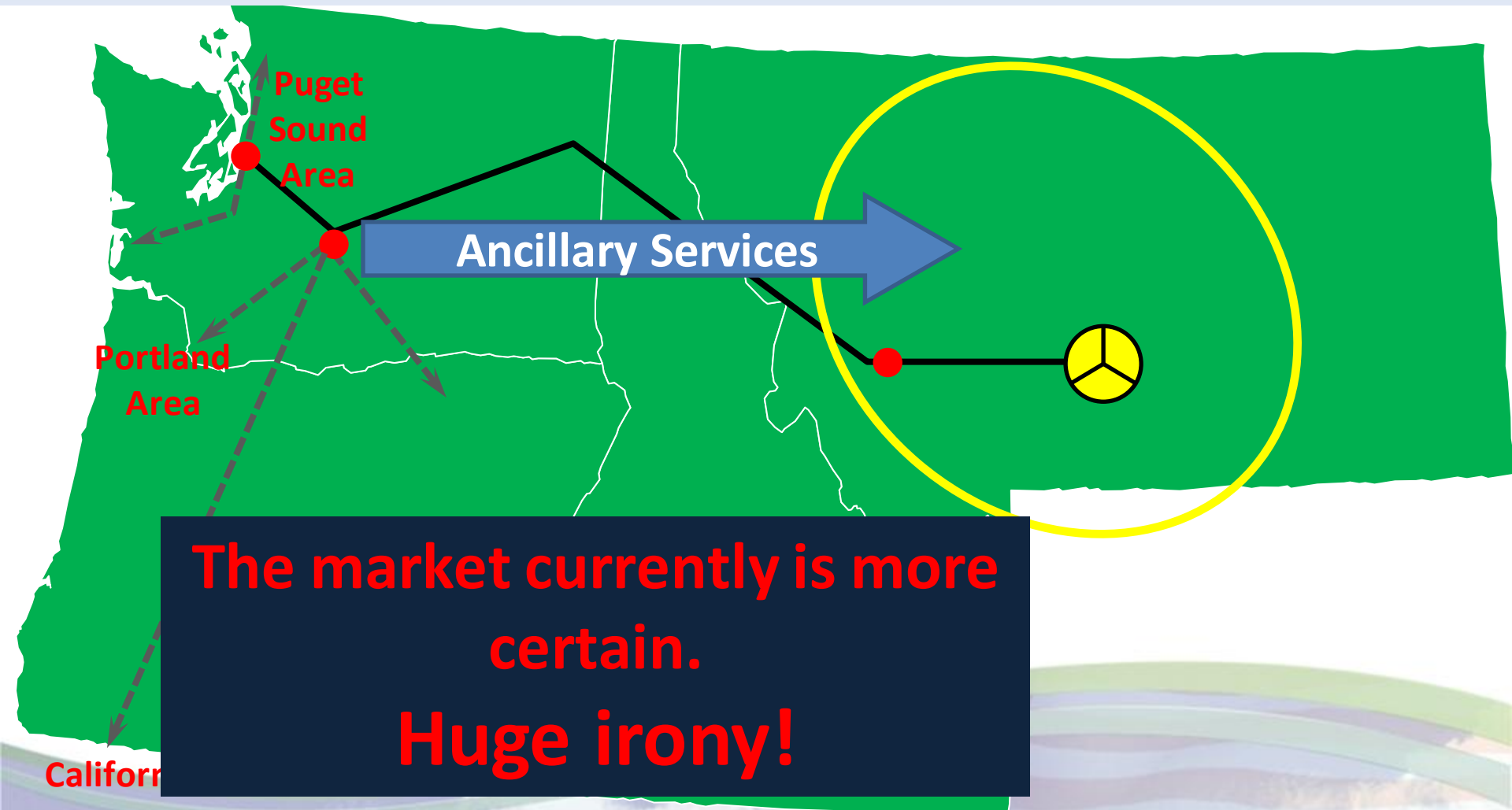
Purchase Ancillary Services from NWE



**Highly uncertain at this time!
Watching the FERC case closely.**

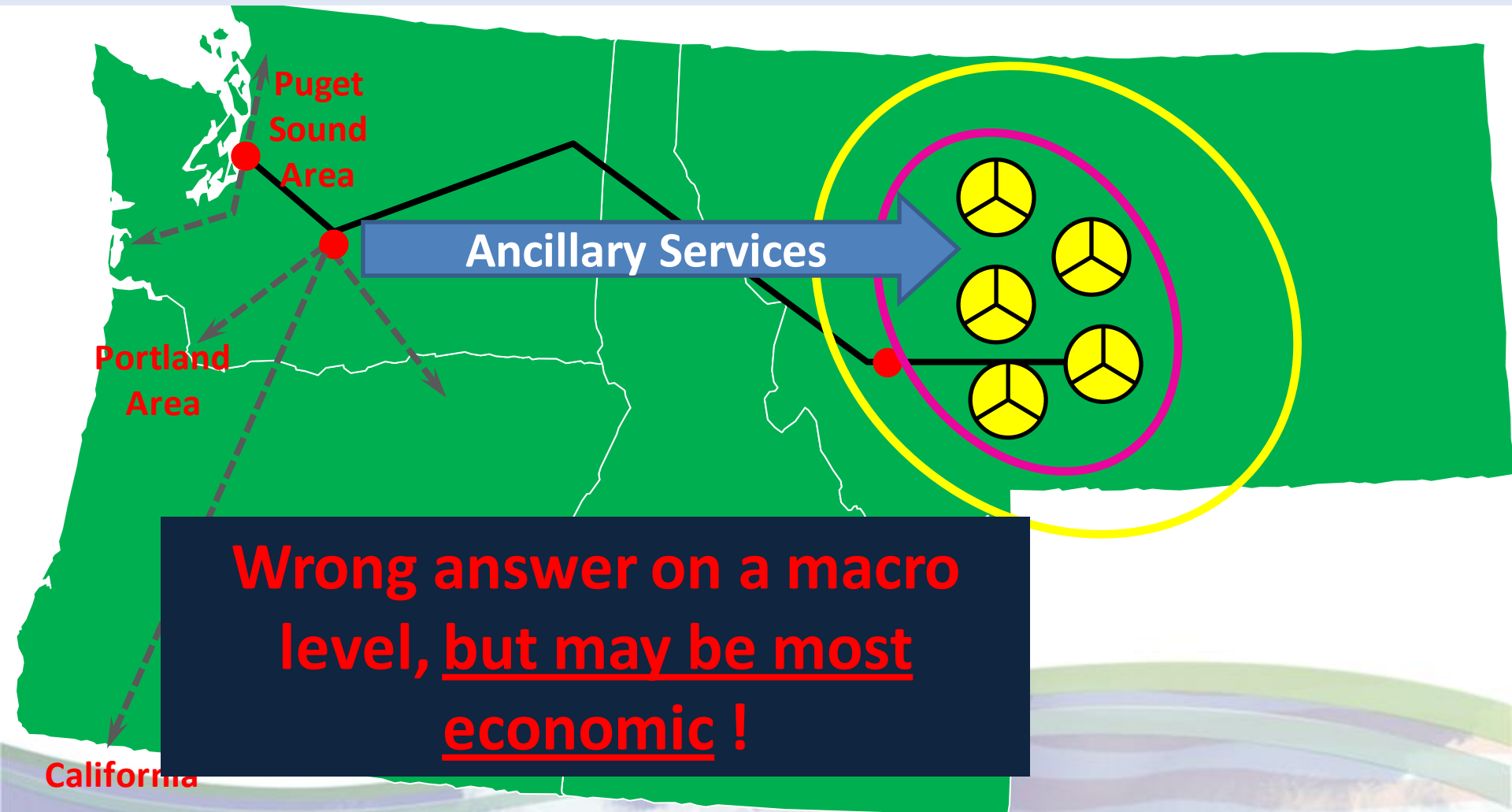
Generate in the NWE BA

Import Ancillary Services to NWE (i.e. self-supply)



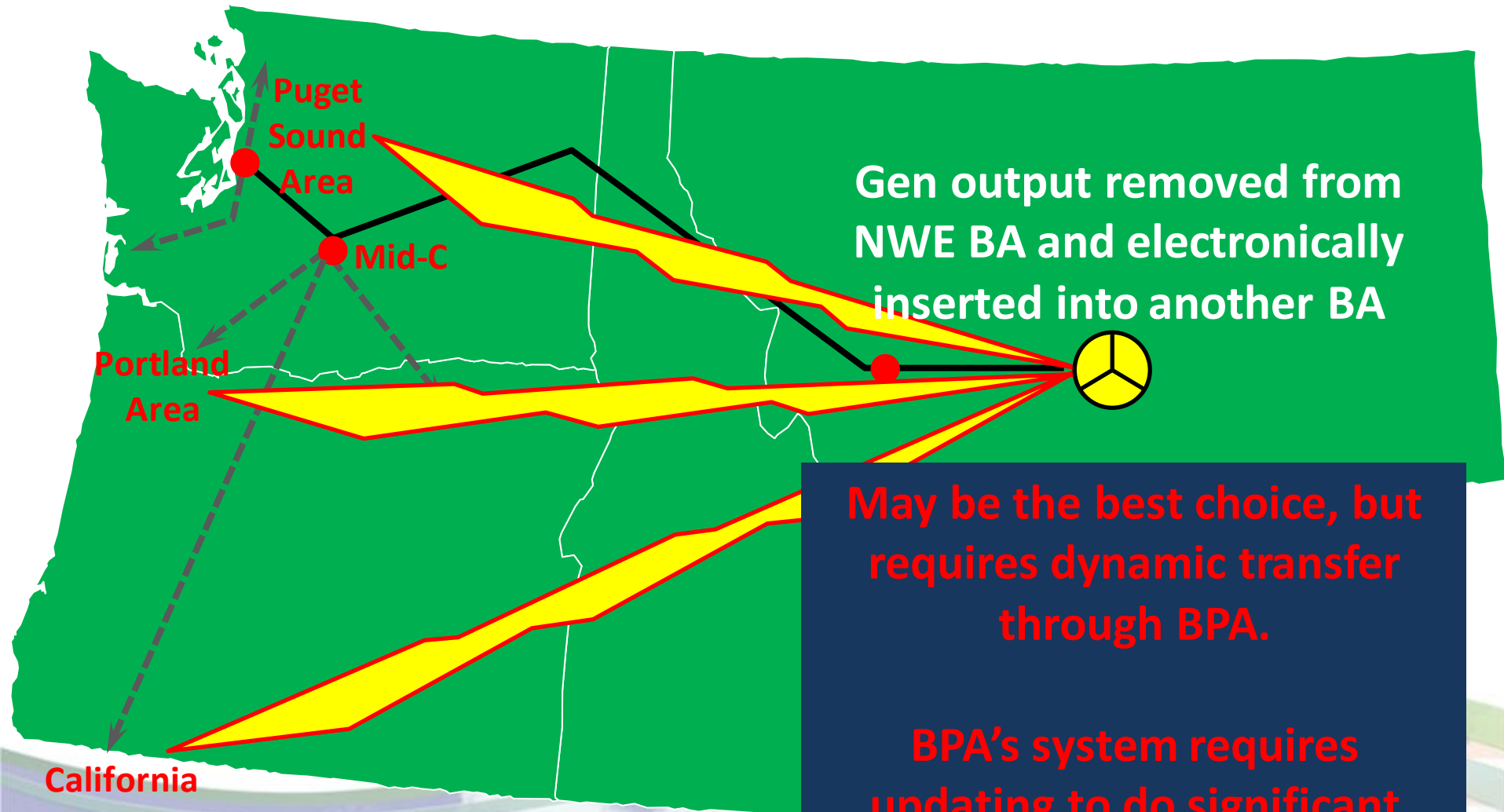
Generate in a Wind-Only BA

Import Ancillary Services to Sub-BA thru NWE



Wrong answer on a macro level, but may be most economic !

Generate in the BA of the Customer



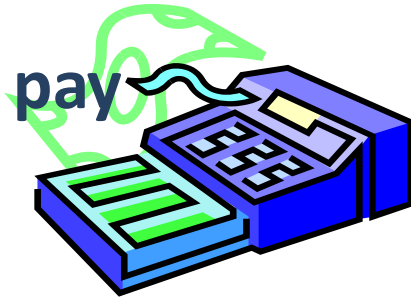
Closing Thoughts

Avoiding cross subsidization of customer groups was debated ad nauseum in the Order 888 process

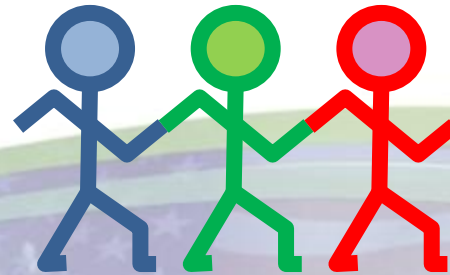
- “higher of” rate methodology
- security requirements



Ultimate customers should and will pay transmission and integration costs



All customers benefit from a robust transmission system



Thoughts, Observations or Questions?



